

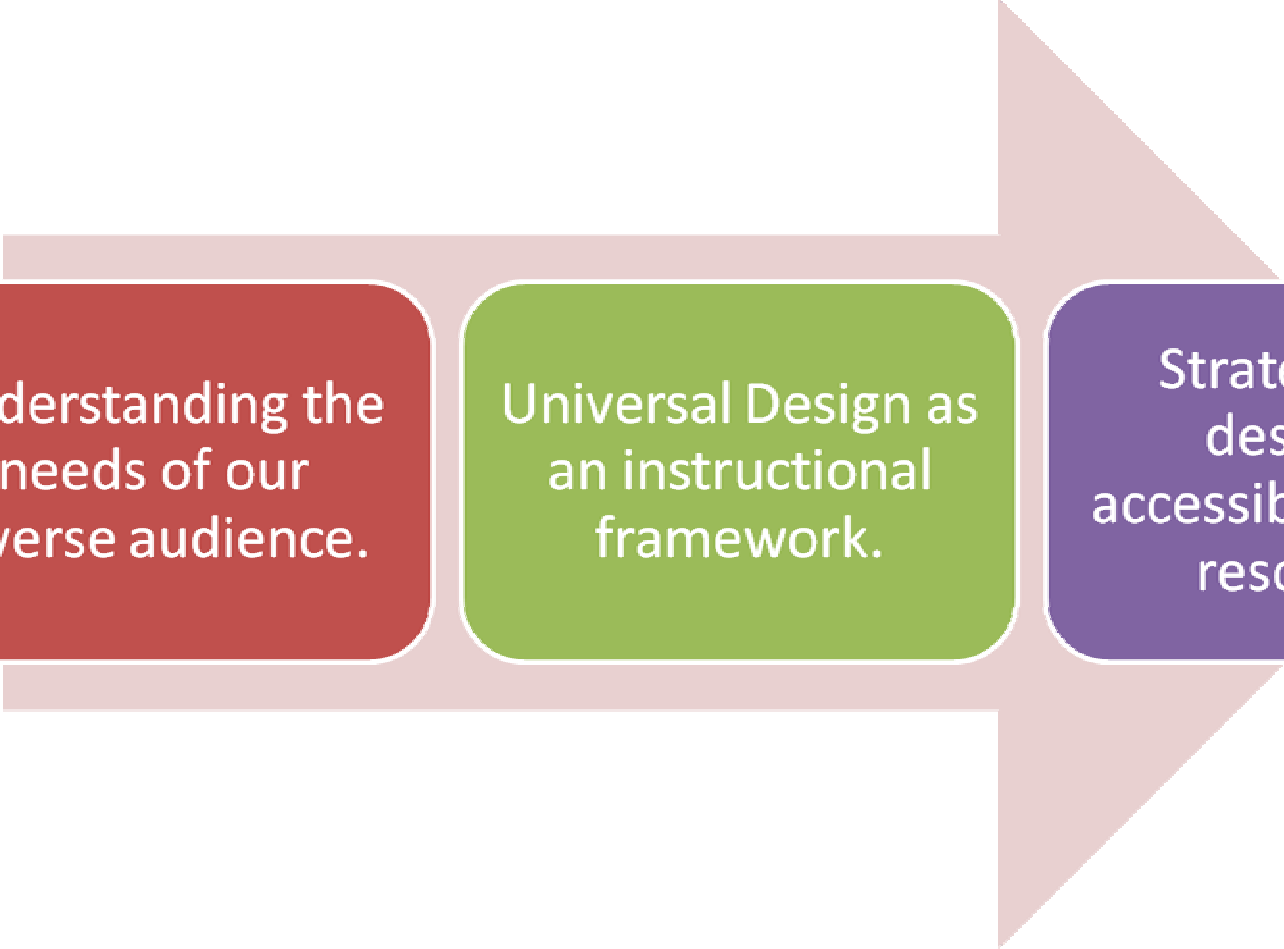
Teaching Every Student

Strategies for Reaching a Diverse Audience Online

Nancy O'Hanlon
LILAC Conference
March 2008



Agenda



Understanding the
needs of our
diverse audience.

Universal Design as
an instructional
framework.

Strategies for
designing
accessible learning
resources.

...then he said, "I can't feel
my legs" and then I said,
"Stay with me Joel!" but it was
too late. He was gone.
It was the PowerPoint.



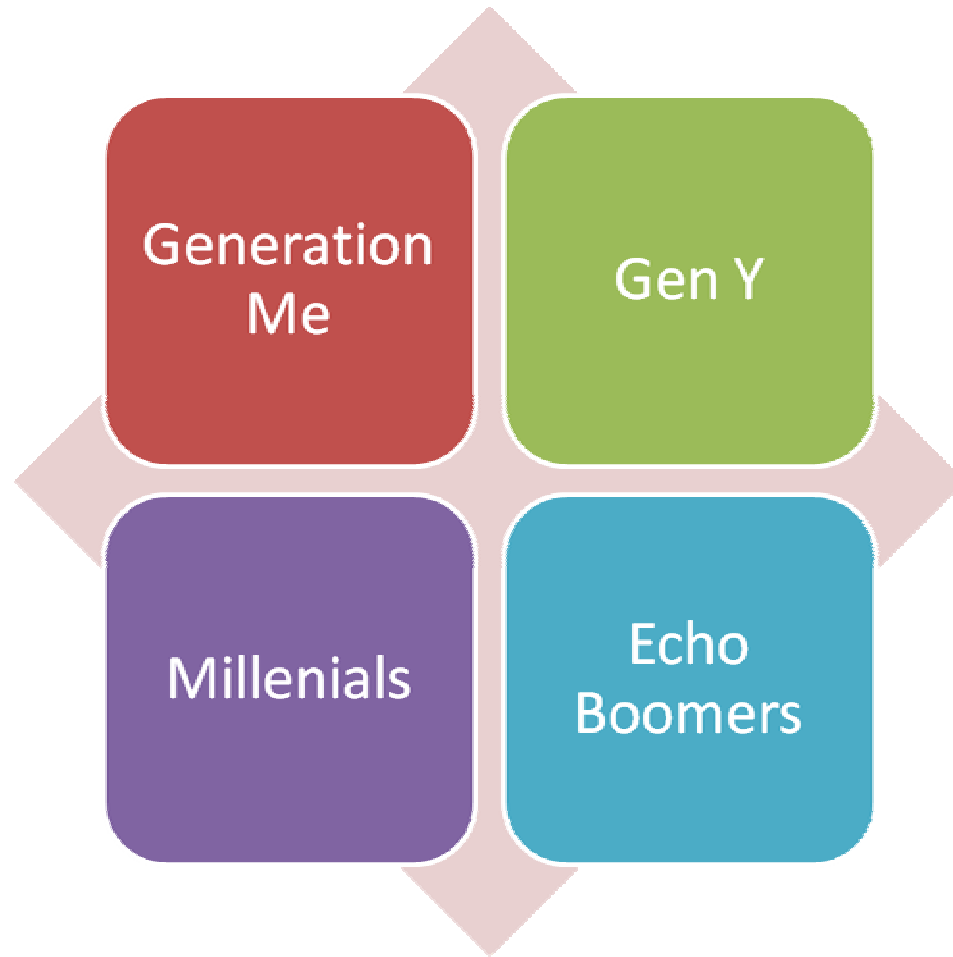
Our Student Audience



Diversity is the Rule

- Gardner's **theory of multiple intelligences** validates educators' everyday experience -- students think and learn in many different ways.
- Respect for **intellectual diversity** creates a fair climate in the classroom for students.

Net Generation Students



© Mike Baldwin / Cornered
Baldwin



“How long have you been multitasking?”

Multitaskers and Attention

“Continuous partial attention”



Effect of Multitasking on Memory

“... even if distraction does not decrease the overall level of learning, it can result in the acquisition of knowledge that can be applied less flexibly in new situations.”



Foerde, Knowlton, & Poldrack, 2006

<http://www.pnas.org/cgi/doi/10.1073/pnas.0602659103>

Hidden Disabilities

- Prevalence – about 5% who are self-identified.
- Others may not report or may not recognize their learning disability.
- Persistence – fewer students with learning disabilities complete degree programs.

Learning Disabled Students

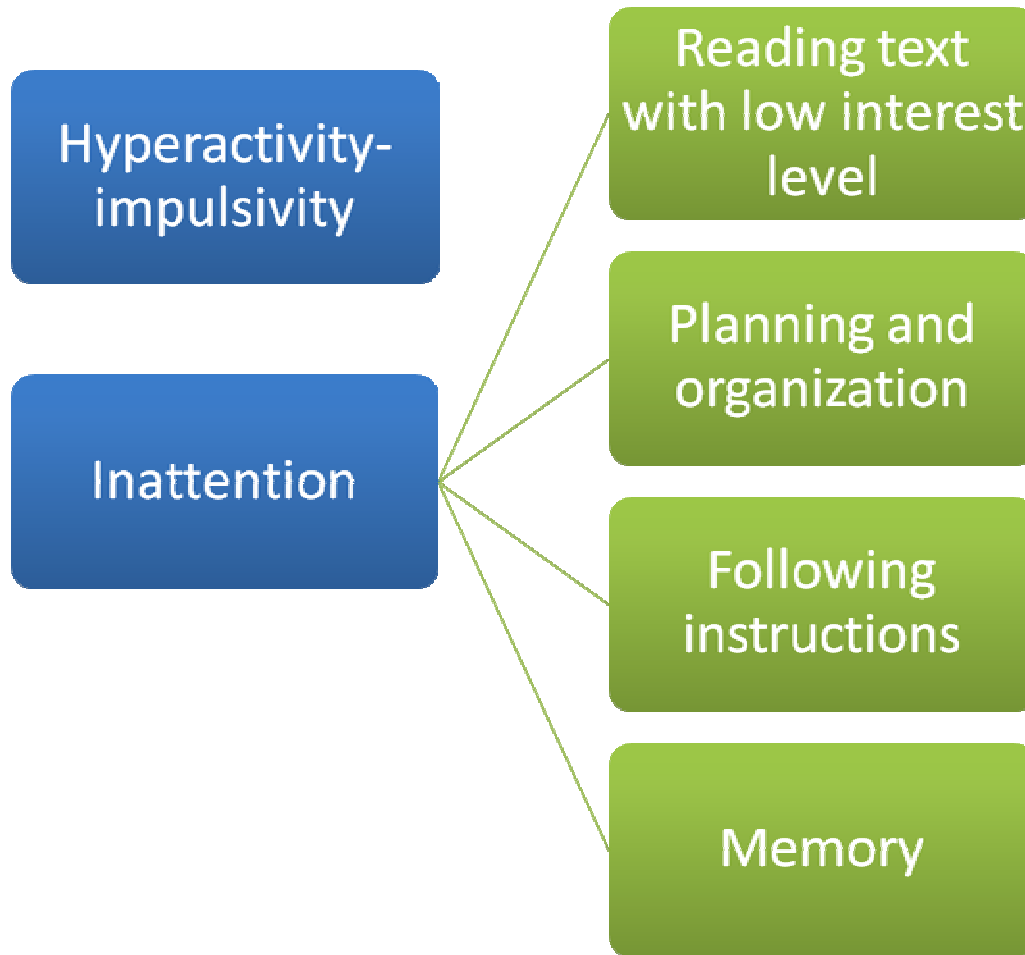
Reading comprehension

Organization

Abstract concepts & problem solving

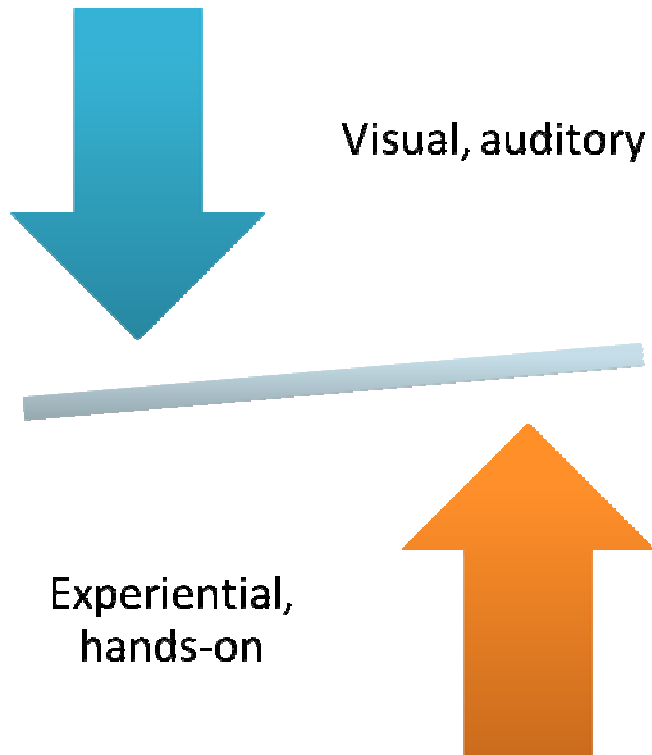
Memory

ADHD

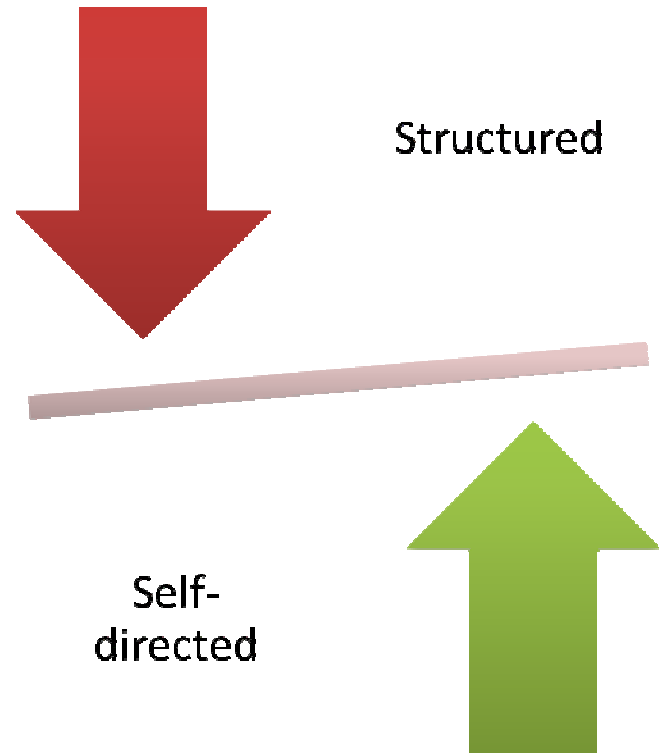


Diverse Audience, Conflicting Viewpoints

Learning Style



Organization

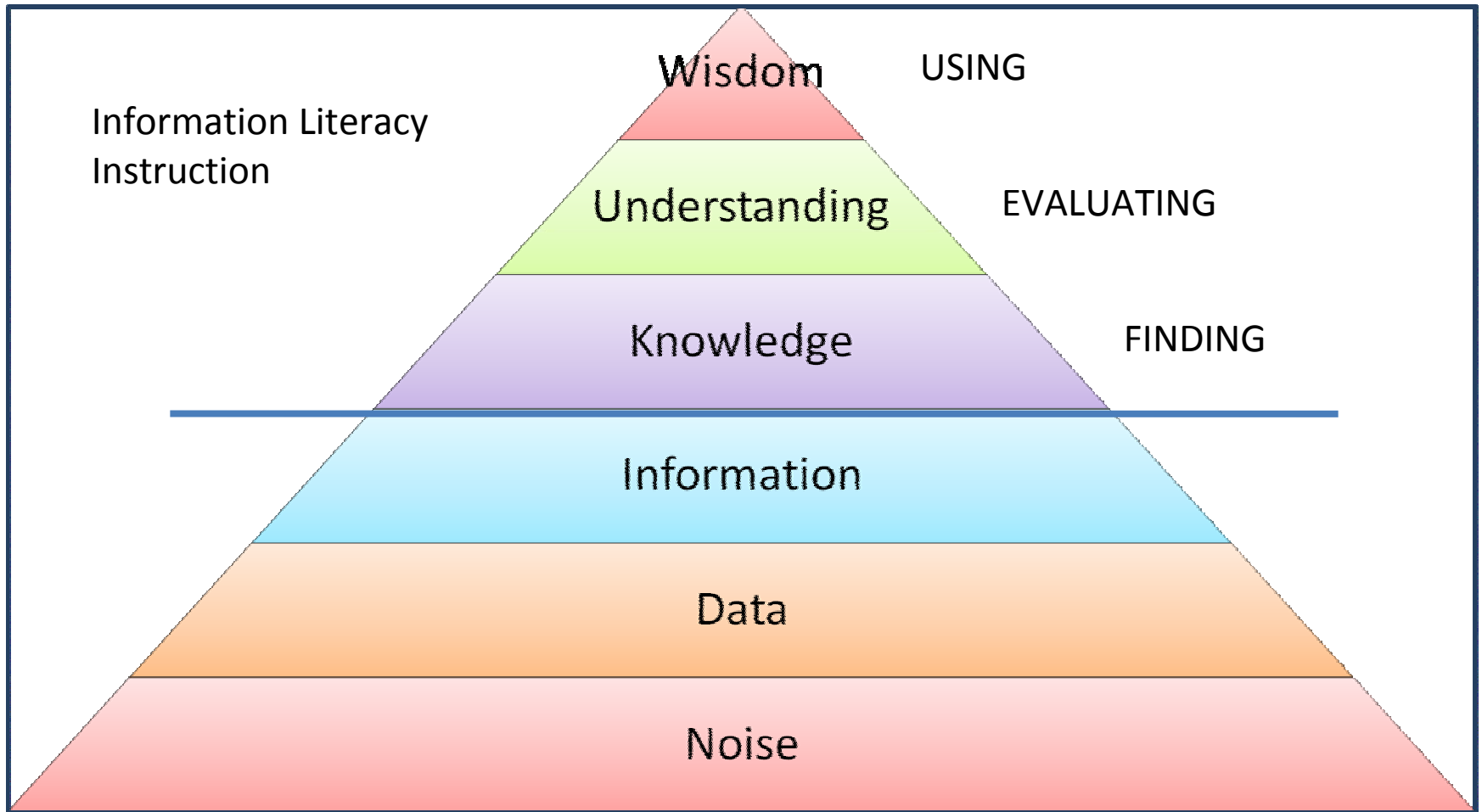


Culture vs. Age

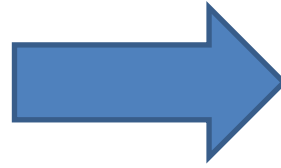
“... the variables of culture, ethnicity, personality and political ethos assume far greater significance in explaining how learning occurs and is experienced than does the variable of chronological age.”

Brookfield, S. Adult Learning: An Overview. In: *International Encyclopedia of Adult Education and Training*, 1996.

Diverse Audience, One Goal



Universal Design for Learning



By designing environments that accommodate a variety of learners, without need for adaptation, all students benefit.

Posner, Brain Imaging Studies



Rose & Meyer: Teaching Every Student

- Learners cannot be reduced to simple categories such as “disabled” or “bright.”
- Student capacities are defined by interplay between unique abilities and tools used.
- Digital media are ideal teaching tools because they can be easily transformed.

[Book online at: <http://www.cast.org/teachingeverystudent/ideas/tes/>]

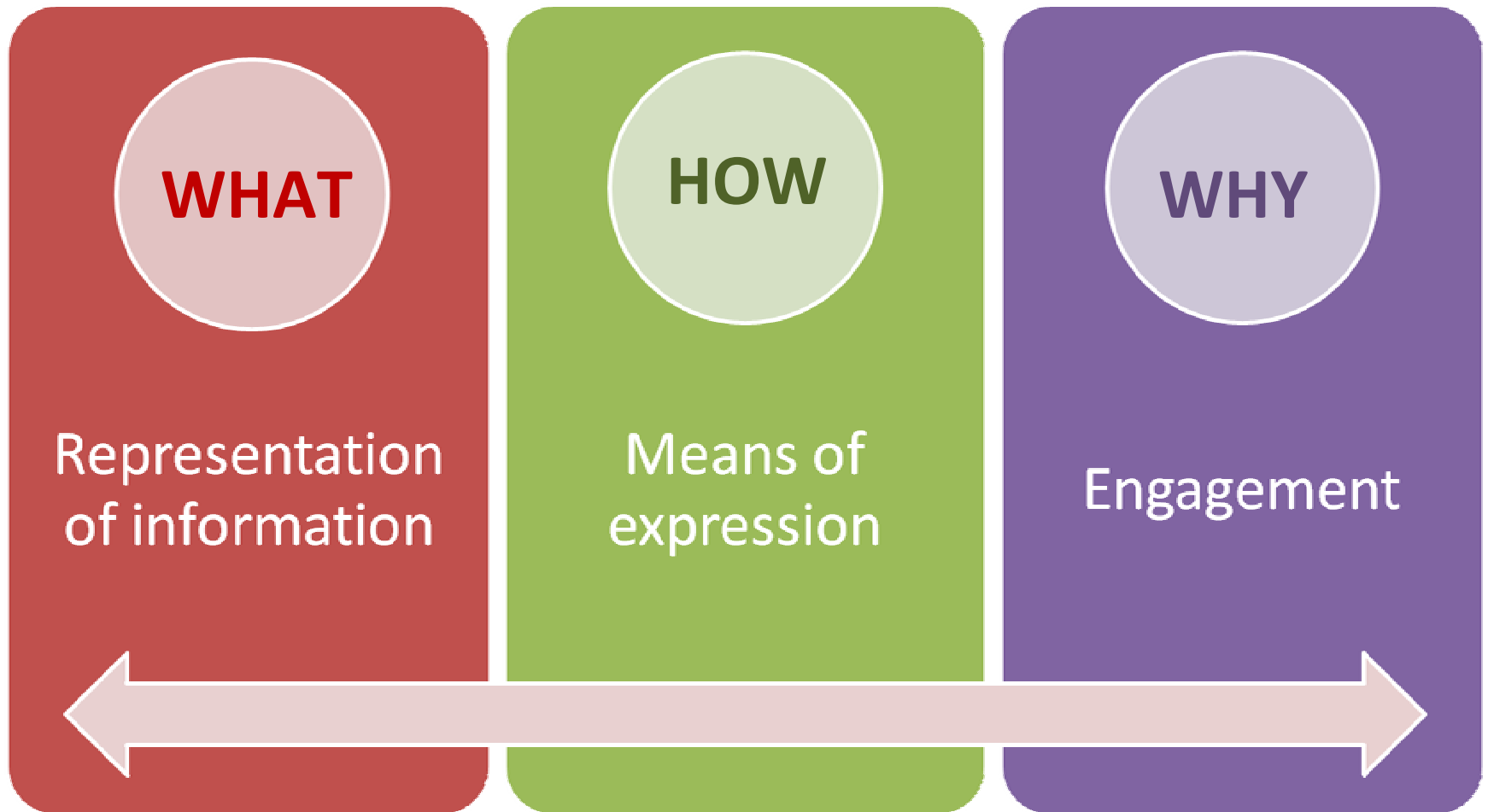
Flexibility is Key



Dr. David Rose
Harvard University School of Education

[Video available at: http://www.olin.org/ILT/ada/Fame/udl/v2_18_173_83.html]

Address Three Networks





CAST

www.cast.org

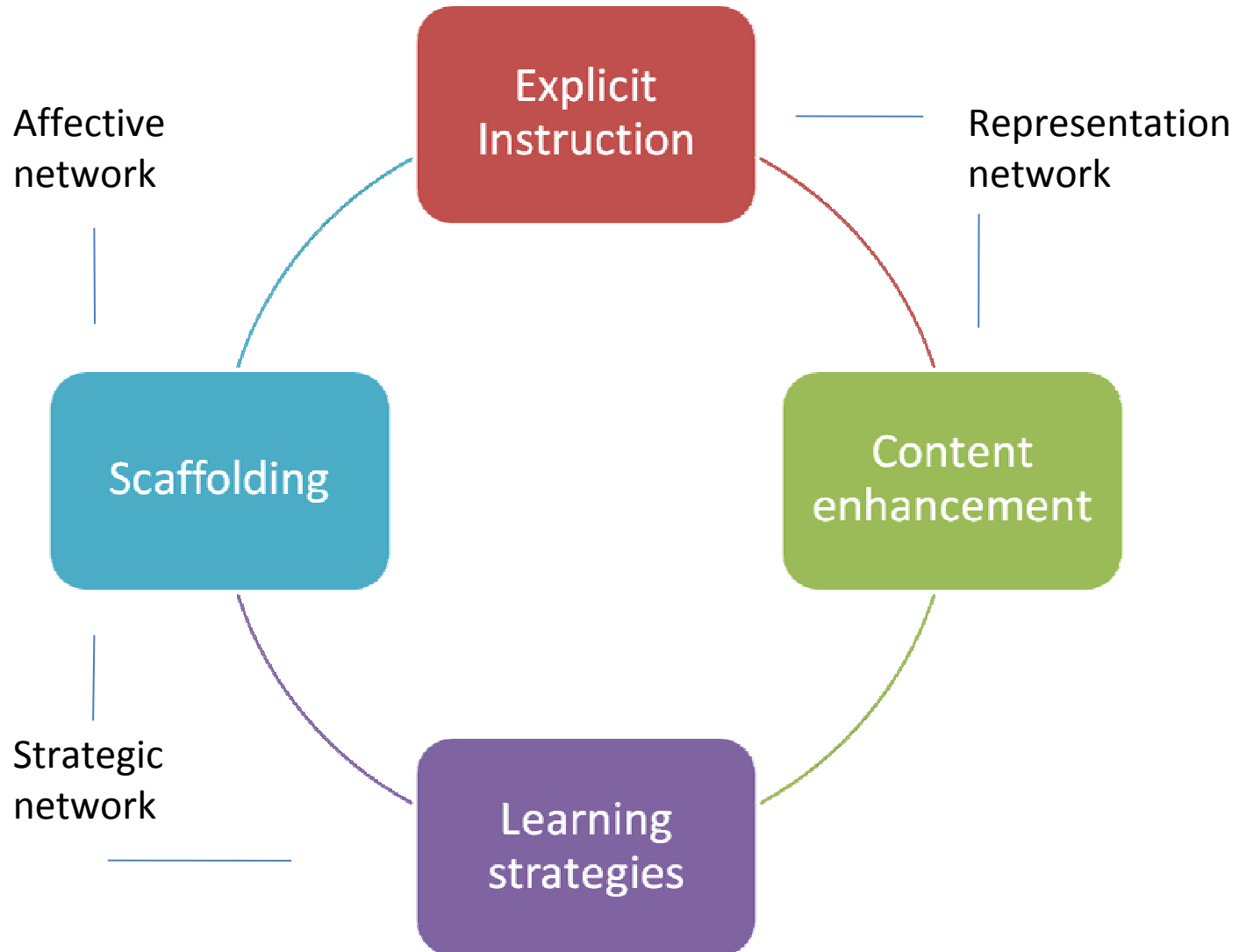


Vygotsky said . . .

Students must be able to:

- Recognize information, ideas, and concepts,
- Apply effective strategies to process the information and
- Be engaged in the process.

Cognitive Supports



Explicit
Instruction

Students Talk About Learning



Helping 6th Formers to Learn

<http://youtube.com/watch?v=Fqvy0YbXdms>

Accessible Web Content

- Create **transformable**, rich, multi-modal content
- **Focus** the attention of the user
- Design a **consistent** environment
- Create simple, **concise** content
- Allow users **sufficient time** to interact with content
- Allow users to recover from accidental interactions

More information:

http://www.webaim.org/articles/cognitive/cognitive_too_little/

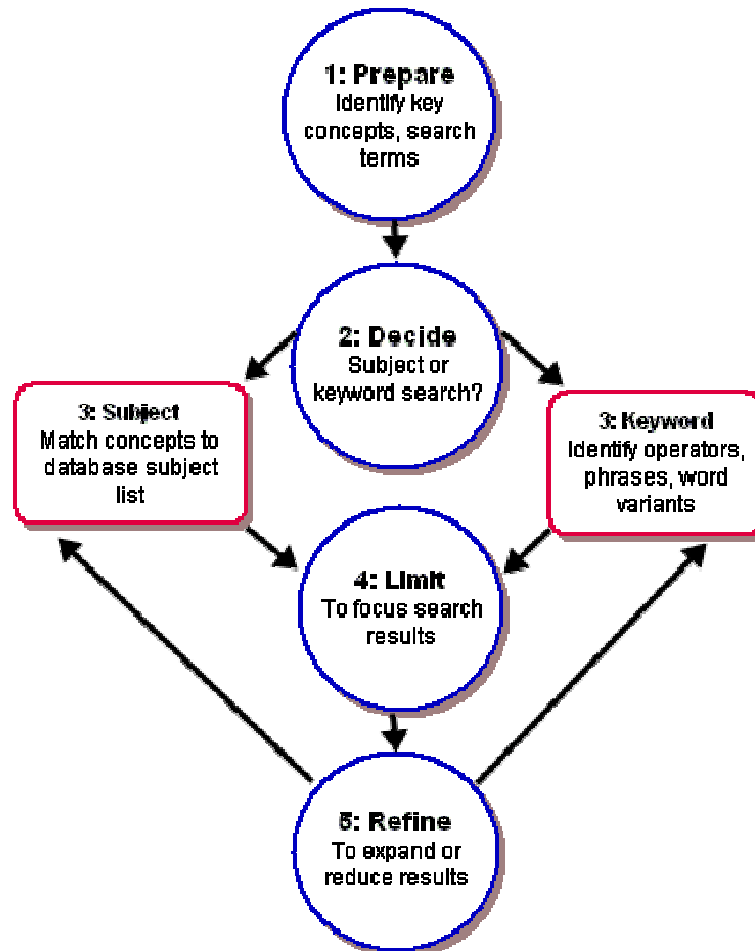
Effective Content Design

- Sites should be highly organized, with key concepts clearly identified in text.
- Students may be using screen readers. Follow good design principles that ensure your text will be read aloud clearly.

Document Design Criteria

TEXT	EMPHASIS
<ul style="list-style-type: none">◆ Left aligned◆ Narrow columns◆ Short sentences and paragraphs◆ Bullets or numbers	<ul style="list-style-type: none">◆ Headings◆ Paragraph titles◆ Boxes◆ Bold text or colored background

Graphic Organizers



Example: net.TUTOR

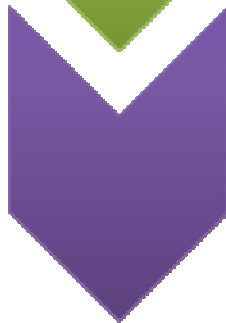
Definition



- A set of steps to accomplish a particular task.



- Breaks complex cognitive tasks into smaller steps



- Concise, usually no more than 7 steps.

EXAMPLE: Research Skills

PAW

- **P**erform search in stages
- **A**void long phrases
- **W**atch results for new terms

BILS

- **B**rowse keyword search results
- **I**dentify relevant record
- **L**ook at subject headings
- **S**earch using subjects

Scaffolding

Definition

Temporary support or assistance that permits a learner to perform a complex task or process.



or shell.
u'ni-ver-sal (yōō'no-vūr'sal) adj. 1. Of, relating to, extending to, or affecting the entire world or all within the world; worldwide. 2. Including, relating to, or affecting all members of the class or group under consideration; the universal skepticism of philosophers. See Syns at general. 3. Applicable or common to all purposes, conditions, or situations; a universal remedy. 4. Of or relating to the universe or cosmos; cosmic. 5. Knowledgeable about or constituting all or many subjects; comprehensively broad. 6. Adapted or adjustable to many sizes or mechanical uses. 7. Logic. Encompassing all of the members of a class or group. Used of a proposition. — n. 1. Logic. a. A universal proposition. b. A general or abstract concept or term considered absolute or axiomatic. 2. A general or widely held principle, concept, or notion. 3. A trait or pattern of behavior characteristic of all the members of a particular culture or of all human beings. — u'ni-ver'sal-ly adv. — u'ni-ver'sal-ness n.
— u'ni-ver'sal-ly adv. See universal joint.

Scaffolding

Process

Teacher

Class

Groups

Student

Online Examples

Teacher modeling ([example](#))

TEACHER, CLASS

Peer mentoring

GROUPS

Examples of good work

STUDENTS

Templates

Checklists ([example](#))

Animations and how-to movies ([example](#))

Summary

- Your classes are **intellectually DIVERSE** and your teaching should reflect this fact.
- By utilizing **UDL principles**, you offer all of your students the opportunity to learn.
- By providing cognitive supports for particular students, **EVERYONE** benefits.